Low Impact Development Design Standards for the City of Salinas

Workshop No. 2

August 10, 2006

NPDES Requirements, Questionnaires, Ordinance & Document Review

California Environmental Protection Agency
CENTRAL COAST REGIONAL
WATER QUALITY CONTROL BOARD

Kennedy/Jenks Consultants

National Pollutant Discharge Elimination System (NPDES)

- The Central Coast Regional Water Quality Control Board administers the NPDES program in the Central Coast Region
- The City of Salinas is required to reduce the discharge of pollutants from its storm drainage system to the Maximum Extent Practicable (MEP)
- Implementation of LID = MEP

NPDES Permit Requirements for New Development

- Minimize impacts on receiving waters from new development and significant redevelopment (5,000 ft^2 or more of new impervious surfaces)
- Require developers to analyze pre- and post-project pollutant loads and peak flow rates and identify BMPs to be implemented
- Review and condition for compliance all priority project categories

Priority Project Categories

1. Residential subdivisions with 10 or more units
2. Commercial developments that create 100,000 ft^2 or more impervious land area
3. Automotive repair shops (≥ 5,000 ft^2)
4. Restaurants (≥ 5,000 ft^2)
5. Hillside developments (≥ 5,000 ft^2)
6. Parking lots (≥ 5,000 ft^2)
7. Streets, roads, highways, and freeways that create 5 or more acres of pavement
8. Retail gasoline outlets (≥ 5,000 ft^2)

Numeric Sizing Criteria

1. Volume-based treatment control BMPs shall be designed to infiltrate or treat either:

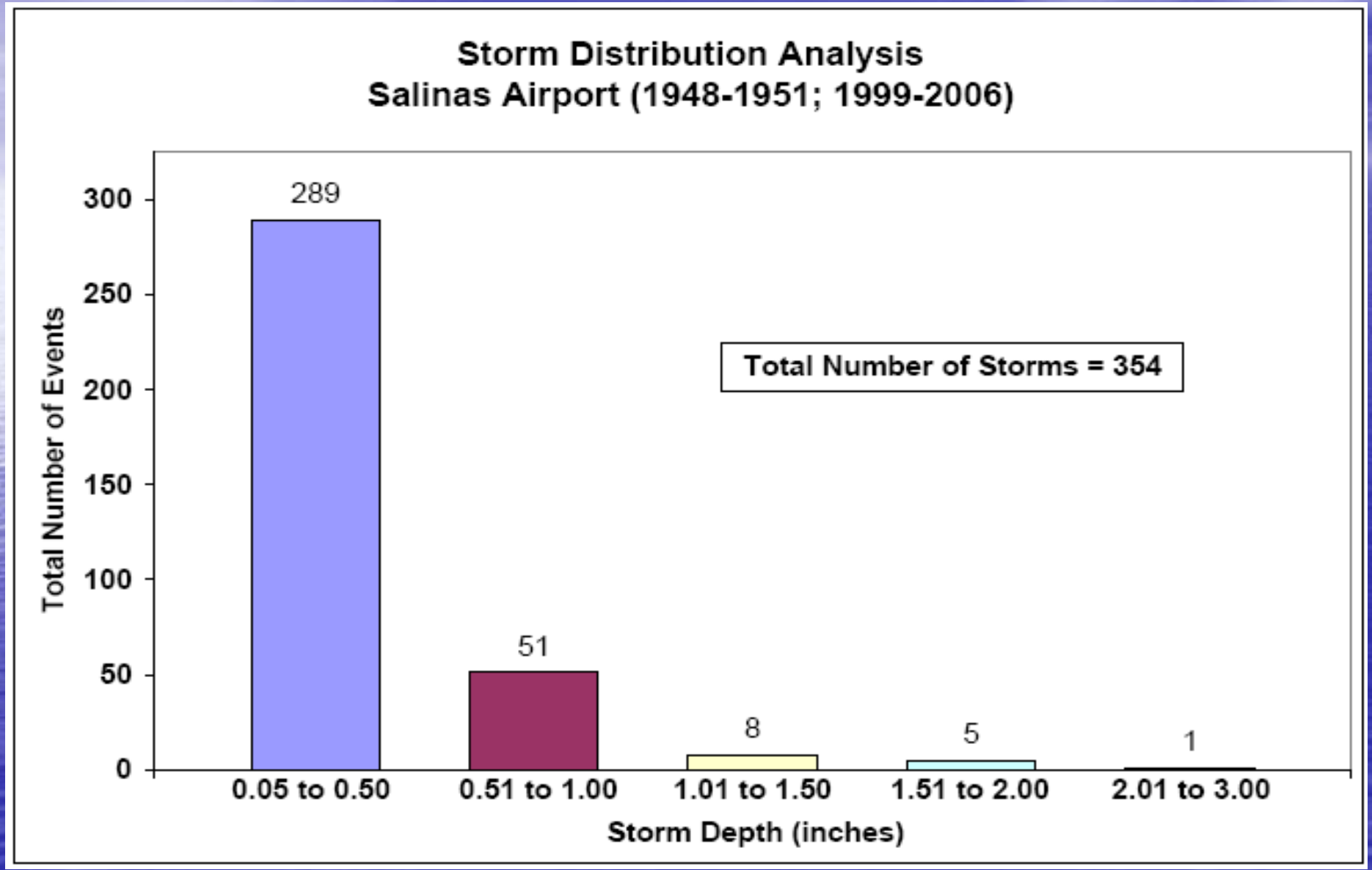
   a) Volume produced by the 24-hour 85th percentile storm event (based on local rainfall records)

   b) Maximized storm water quality capture volume (WEF/ASCE method, 1998)

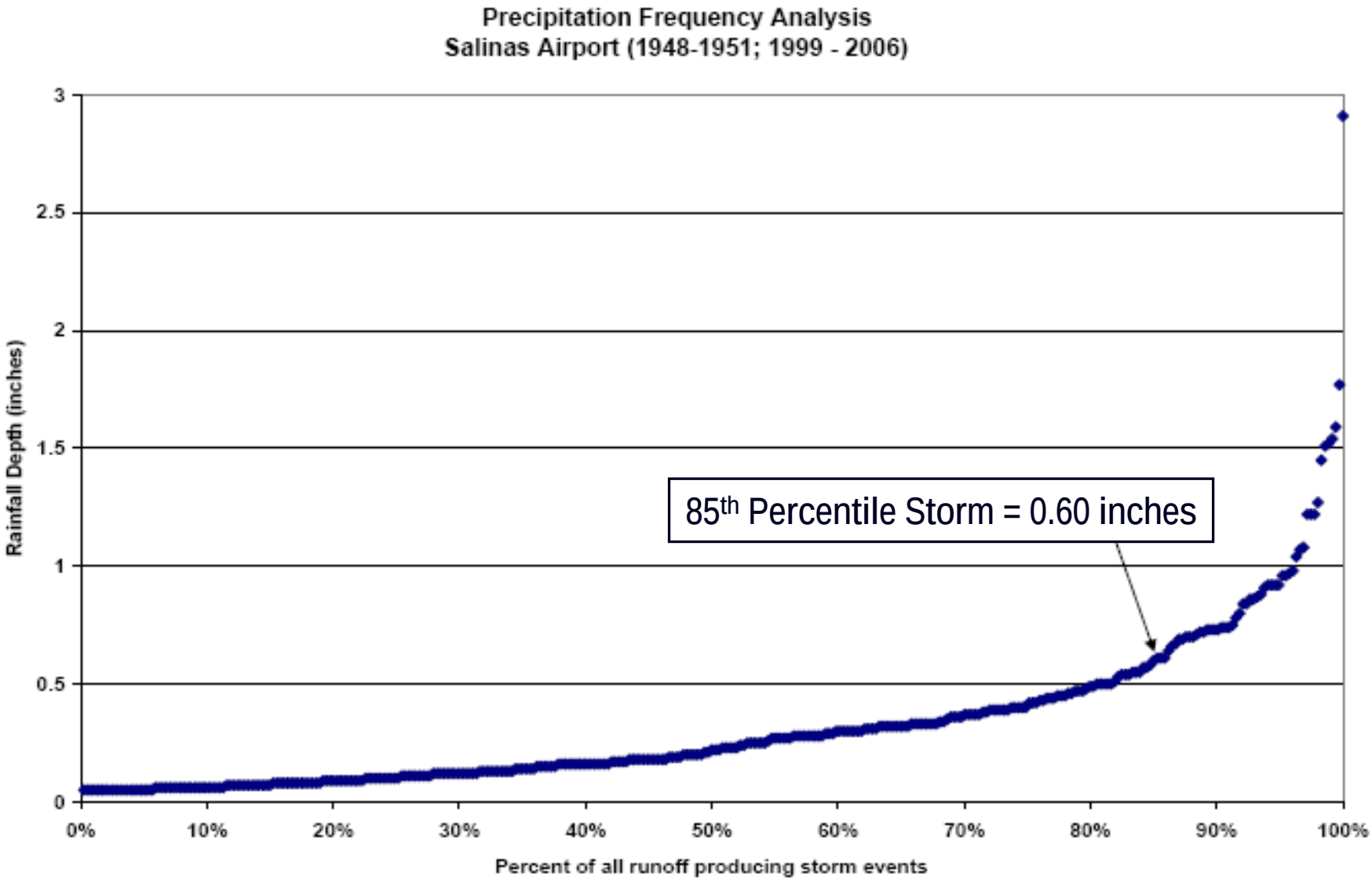
   c) 80% of the volume of annual runoff (CASQA method, 2003)

Examples of volume-based treatment control BMPs include extended detention and bioretention basins

Analysis of Local Precipitation Data



Analysis of Local Precipitation Data



Numeric Sizing Criteria

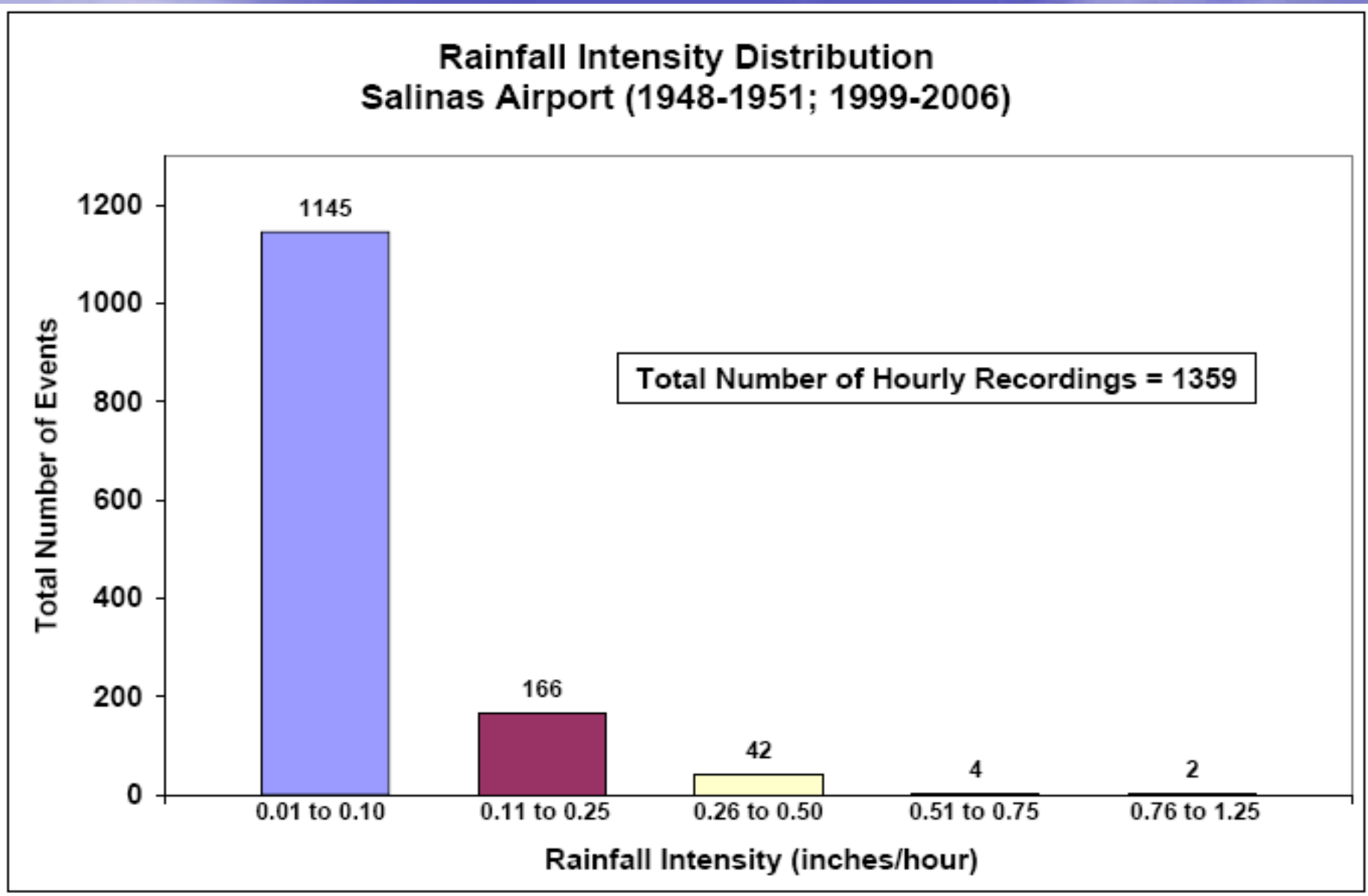
2. Flow-based treatment control BMPs shall be designed to infiltrate or treat either:

   Maximum flow rate produced by a rain event equal to two times the 85th percentile hourly rainfall intensity based on local rainfall records (CASQA method, 2003)

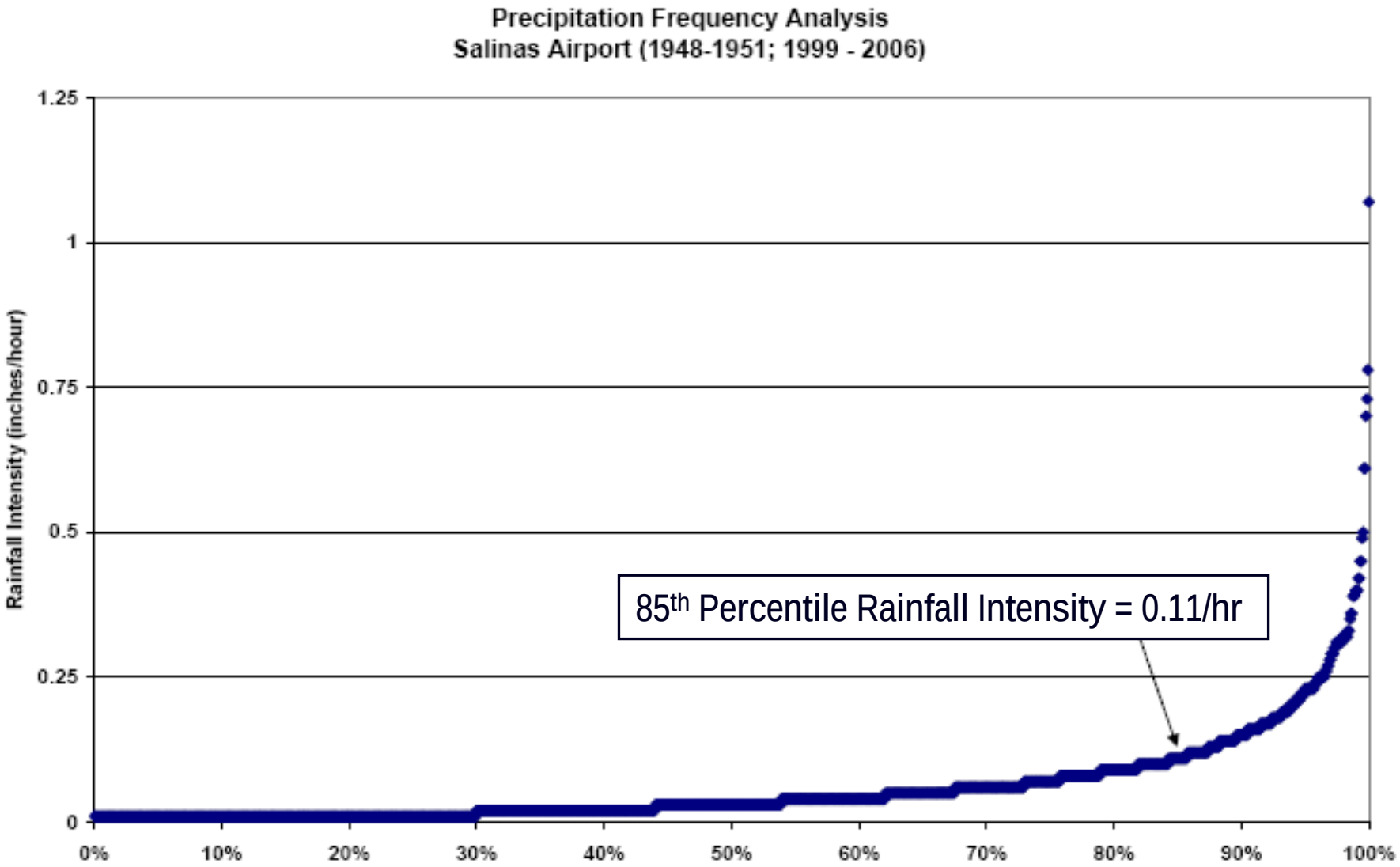
   Examples of flow-based treatment control BMPs include vegetated swales and buffer strips

3. An approved equivalent numeric sizing criteria may be used

Analysis of Local Precipitation Data



Analysis of Local Precipitation Data



Salinas Development Standards Plan

- List recommended source and treatment control BMPs
- Numeric sizing criteria for treatment control BMPs
- Consider pollutants and activities of concern
- Describe implementation process
- Apply restrictions to infiltration devices to protect groundwater quality
- Address the potential for downstream erosion and degradation of stream habitat
- Identify necessary modifications to existing codes and ordinances and an implementation schedule

Infiltration and Groundwater Quality

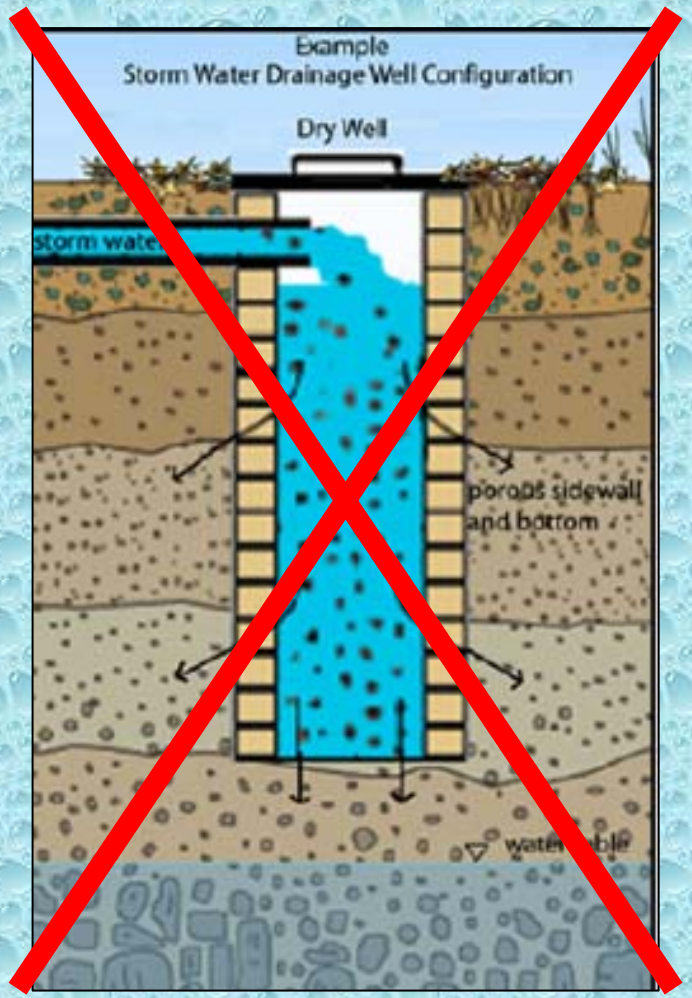
- Restrictions on infiltration devices may include the following:

1. 150 ft or more from drinking water wells
2. Not to be used at industrial or commercial sites with outdoor storage or materials and/or chemicals
3. Native soil infiltration rates should be between 0.5 to 2.4 in/hr (120 to 25 min/in)
4. When using infiltration basins and trenches, storm water should be pretreated prior to infiltration (e.g. with grassy swales)

Prevent Groundwater Contamination

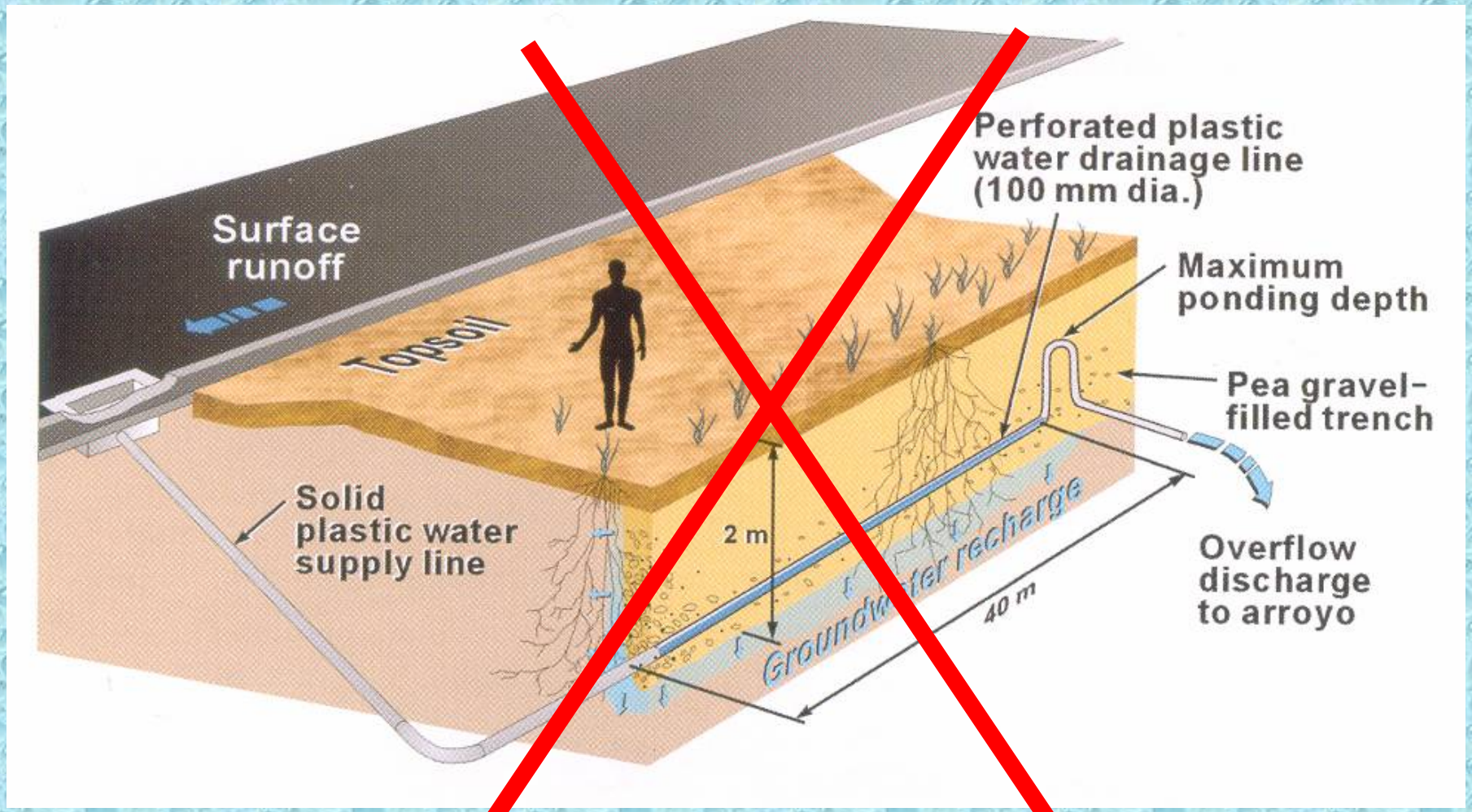
Infiltration practices can have unitended consequences for groundwater supplies

- **Use caution with infiltration practices**
- **Class V injection wells**
- **SDWA, UIC & Wellhead Protection**
- **Design infiltration practices per Development Standards Plan**



Underground Injection Control (UIC)

Class V Injection Well



Maintenance Agreement and Transfer

- The City of Salinas shall require verification of maintenance provisions for post-construction treatment control BMPs.

1. Developer to maintain BMPs until legally transferred to another party; or
2. Sales or lease agreement includes recipients requirements for maintenance; or
3. Project conditions or CC&R's for residential developments assign maintenance responsibilities to HOA or other appropriate group; or
4. Any other legally enforceable agreement

Questionnaires

1. The City's design, review and approval process for storm drainage facilities
2. Methods used to assist and monitor the proper design, construction and maintenance of storm drainage facilities
3. Management of erosion and sediment control at construction sites
4. The role of landscape architects in the design of storm drainage facilities
5. Potential institutional barriers to implementing LID
6. Outdoor hazardous materials storage and spill control and cleanup policies and procedures for industrial and commercial development projects
7. Infiltration testing requirements for septic systems
8. Training and education opportunities for LID

Ordinance & Document Review

1. The Central Coast Region Water Quality Control Plan (September 1994)
2. Regional Board Order No. R3-2004-0135 (February 2005)
2. The Salinas Municipal Code (*selected draft and adopted sections*)
4. The City of Salinas Standard Specifications, Design Standards and Standard Plans (2004 edition)
5. The Salinas General Plan (September 2002)
6. The City of Salinas Storm Drain Master Plan (May 2004)
7. The Salinas River Watershed Management Action Plan (October 1999)

Draft Ordinance Review

- The City of Salinas draft revised Storm Water Ordinance (dated June 26, 2006)
- The City of Salinas draft revised Grading Ordinance (dated June 19, 2006)
- The City of Salinas Draft Zoning Code Update (dated August 2005)

Adopted Ordinance Review

- Chapter 29 - Sewers
- Chapter 29A - Stormwater Management Utility
- Chapter 30 - Streets and Sidewalks
- Chapter 31 - Subdivisions
- Chapter 35 - Trees and Shrubs
- Chapter 36A - Water Conservation

Questions?